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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,740	09/26/2003	Claus Muschallik	P2001,0226	1923
24131	7590	02/09/2006	EXAMINER	
LERNER GREENBERG STEMER LLP			HAROON, ADEEL	
P O BOX 2480			ART UNIT	
HOLLYWOOD, FL 33022-2480			PAPER NUMBER	

2685

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,740

Applicant(s)

MUSCHALLIK ET AL.

Examiner

Adeel Haroon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 9, 10, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Auvray (U.S. 5,953,641).

With respect to claims 1 and 17, Auvray discloses a transmitting and receiving unit with a first, SYN, and second, SYN plus DIV, frequency generators (Column 4, lines 33-41). Auvray discloses a receiving branch with an in-phase and quadrature component having a first frequency converter, MRI and MRQ, coupled to the first frequency generator (Column 5, lines 12-16). Auvray also discloses a transmitting branch with an in-phase and quadrature component having a second frequency converter, MEI and MEQ, switchably coupled with CRI and CRQ to one of the first and second frequency generators (Column 2, lines 49-55). Auvray further discloses a programmable control device, CDE, coupled to the switch for selecting a transmitting

mode of operation and receiving mode of operation (Column 4, line 66 – Column 5, line 11).

With respect to claim 9, Auvray further discloses the two frequency generators have a common reference frequency source, SYN (Column 4, lines 33-41).

With respect to claim 10, Auvray discloses the frequency generators with SYN , which is a frequency synthesizer thus containing a phase locked loop (Column 4, lines 33-41). Auvray further discloses using divider ratios, DIV, to generate local oscillator frequency (Column 4, lines 52-65).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auvray (U.S. 5,953,641) in view of Matero et al. (U.S. 5,768,691).

With respect to claim 2, the transmitting and receiving unit of Auvray is described above in the discussion of claim 1. Auvray further discloses the switch has switch positions (Column 4, line 66 – Column 5, line 11). Moreover, Auvray teaches that

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receiving branch has a radio frequency input and the transmitting branch provides a radio frequency signal (Column 2, lines 49-60). Auvray uses a duplexer, DUP, to separate the transmitting and receiving paths (Column 2, lines 56-60). Auvray does not disclose a second switch to separate the transmitting and receiving paths. However, Matero et al. discloses a transmitting and receiving unit that uses switch, element number 18, in figure 8 to replace a duplexer, element number 5, in figure 6 that separate the transmitting and receiving paths teaching that duplexers and SPDT are interchangeable (Column 4, lines 53-55). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use a switch not duplexers in Auvray's transmitting and receiving unit as taught by Matero et al. to separate the two paths.

With respect to claim 3, the modified transmitting and receiving unit of Auvray and Matero et al. is described above in the discussion of claim 2. Matero et al. further teach band-pass filters, element numbers 20 and 22, coupled to the radio frequency end of the transmitting and receiving branches (Column 7, lines 38-41). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use bandpass filters as taught by Matero et al. in the modified unit of Auvray and Matero et al. in order to filter out noise.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Auvray (U.S. 5,953,641) and Matero et al. (U.S. 5,768,691) further in view of Weissman et al. (U.S. 6,795,690).

With respect to claim 4, the modified transmitting and receiving unit of Auvray and Matero et al. is described above in the discussion of claim 3. Neither Auvray nor Matero et al. disclose surface acoustic wave filters. However, Weissman et al. teach using surface acoustic wave filters, element numbers 60 and 64, as band pass filters in the RF end of both transmitting and receiving branches (Column 4, lines 56-63). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use surface acoustic wave filters as taught by Weissman et al. in the modified unit of Auvray and Matero et al. in order to have better noise characteristics of the filters.

6. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auvray (U.S. 5,953,641) in view of Ohta et al. (U.S. 6,104,764).

With respect to claims 5 and 6, the transmitting and receiving unit of Auvray is described above in the discussion of claim 1. Auvray does not disclose digital signal processing device with a low-pass filter. However, Ohta et al. disclose a digital processing device with a low-pass filter, element number 12, with switchable filter coefficients, which are controllable (Column 13, lines 6-15). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Ohta et al.'s digital processing filtering technique in both the transmitting and receiving branches of Auvray's unit in order to provide better noise characteristics.

With respect to claims 7 and 8, Ohta et al. further disclose a phase error compensation network, element numbers 15 and 16, which with the low pass filter are controlled by the processor (Column 13, lines 6-15). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Ohta et al.'s phase error compensation technique in both the transmitting and receiving branches of Auvray's unit in order to provide better phase characteristics.

7. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auvray (U.S. 5,953,641), Matero et al. (U.S. 5,768,691), and Weissman et al. (U.S. 6,795,690) further in view of Ohta et al. (U.S. 6,104,764).

With respect to claims 11 and 12, the modified transmitting and receiving unit of Auvray, Matero et al., and Weissman et al. is described above in the discussion of claim 4. None of the references disclose digital signal processing device with a low-pass filter. However, Ohta et al. disclose a digital processing device with a low-pass filter, element number 12, with switchable filter coefficients, which are controllable (Column 13, lines 6-15). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Ohta et al.'s digital processing filtering technique in both the transmitting and receiving branches of the modified unit in order to provide better noise characteristics.

With respect to claims 13 and 14, Ohta et al. further disclose a phase error compensation network, element numbers 15 and 16, which with the low pass filter are

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controlled by the processor (Column 13, lines 6-15). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Ohta et al.'s phase error compensation technique in both the transmitting and receiving branches of the modified unit in order to provide better phase characteristics.

With respect to claim 15, Auvray further discloses the two frequency generators have a common reference frequency source, SYN (Column 4, lines 33-41).

With respect to claim 16, Auvray discloses the frequency generators with SYN, which is a frequency synthesizer thus containing a phase locked loop (Column 4, lines 33-41). Auvray further discloses using divider ratios, DIV, to generate local oscillator frequency (Column 4, lines 52-65).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ishizuka (U.S. 5,862,181) discloses a transmitting receiving apparatus with switchable frequency generator control. Mohindra (U.S. 6,717,981) discloses a transmitter that has two modes of operation based on the switching of the frequency generators. Higuchi (U.S. 6,850, 739) discloses a transmitting and receiving with different frequency generating techniques.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adeel Haroon whose telephone number is (571) 272-

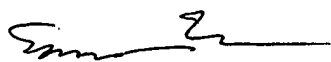
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7405. The examiner can normally be reached on Monday thru Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AH
2/3/06


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